$$z = \mathrm{sn}(w, k), \qquad z = a + ib, \qquad w = u + iv,$$

$$u + iv = \mathrm{sn}^{-1}(a + ib) = F(\psi, k),$$

$$a + ib = \sin \psi = \sin(\theta + i\varphi),$$

where $F(\psi, k)$ is the incomplete elliptic integral of the first kind and k is the usual notation for the modulus. Let C, D, E and F stand for certain ranges of the parameters. Thus

$$C : 0(0.1)1; \qquad D : 0.9(0.01)1;$$

$$E : 0.01(0.01)0.1; \qquad F : 0.1(0.1)1.$$

Let K and K' be the complete elliptic integrals of the first kind of modulus k and $k' = (1 - k^2)^{1/2}$, respectively. Then, the tables give 5D values of $u/k + iv/k'$ for

$$k = \sin \theta, \qquad \theta = 5°(5°)85°(1°)89°,$$

and the ranges

$$a = C, b = C; \quad a = D, b = C; \quad a = C, b^{-1} = E; \quad a = C, b^{-1} = F;$$

$$a^{-1} = E, b = C; \quad a^{-1} = F, b = C; \quad a^{-1} = E, b^{-1} = E;$$

$$a^{-1} = F, b^{-1} = F.$$

The headings for each page of the tables were machine printed so that no confusion should arise, provided it is understood that $K = \sin 5$, for example, should read $k = \sin 5°$.

The method of computation and other pertinent formulae are given in the introduction.

Y. L. L.

1. H. E. Fettis & J. C. Caslin, *Elliptic Functions for Complex Arguments*, Report ARL 67-0001, Aerospace Research Laboratories, Office of Aerospace Research, United States Air Force, Wright-Patterson Air Force Base, Ohio, January, 1967. See *Math. Comp.*, v. 22, 1968, pp. 230–231.
2. F. M. Henderson, *Elliptic Functions with Complex Arguments*, Univ. of Michigan Press, Ann Arbor, Michigan, 1960. See *Math. Comp.*, v. 15, 1961, pp. 95, 96.

23 [8].—Lai K. Chan, N. N. Chan & E. R. Mead, *Tables for the Best Linear Unbiased Estimate Based on Selected Order Statistics from the Normal, Logistic, Cauchy, and Double Exponential Distribution*, The University of Western Ontario, London, Ontario, 1972. Ms. of 3 typewritten pp. + 1187 computer sheets deposited in the UMT file.

If $X(1) < X(2) < \cdots < X(N)$ represent the order statistics corresponding to a random sample of size N from a population with given probability density function of the form $(1/\sigma)f((x - \mu)/\sigma)$, where μ and σ are location and scale parameters, respectively, then

(1) when $\sigma = \sigma_0$ is known, μ can be estimated by a linear estimate of the form

$$U = a_1 X(n_1) + a_2 X(n_2) + \cdots + a_k X(n_k) - A\sigma_0;$$

(2) when $\mu = \mu_0$ is known, σ can be estimated by a linear estimate of the form

$$S = b_1 X(n_1) + b_2 X(n_2) + \cdots + b_k X(n_k) - B\mu_0;$$

(3) when both μ and σ are unknown, (μ, σ) can be estimated by (U, S) where

$$U = c_1 X(n_1) + c_2 X(n_2) + \cdots + c_k X(n_k),$$

$$S = d_1 X(n_1) + d_2 X(n_2) + \cdots + d_k X(n_k).$$

In all cases, $1 \leqq R_1 \leqq n_1 < \cdots < n_k \leqq N - R_2 \leqq N$, where R_1 and R_2 are, respectively, the number of lower and upper observations that are censored.

In the present tables, $k = 1(1)4$ and the values of the coefficients of $X(n_i)$, A and B, and the ranks $n_1 < \cdots < n_k$ given are such that Lloyd's (1952) best linear unbiased estimate (obtained by the method of generalized least squares) based on the k order statistics $X(n_1) < \cdots < X(n_k)$ has minimum variance (when one parameter is known) or minimum generalized variance (when both are unknown) among the $\binom{N}{k}$ possible choices of the set of k ranks. Also given in the tables are the variances and covariances of the estimates (V(U), V(S), COV(U, S)), the variances of the estimates U and S based on all order statistics in the uncensored portion (V_1, V_2), the relative efficiencies (RE(U) $\equiv V_1/\mathrm{V}(U)$, RE(S) $\equiv V_2/\mathrm{V}(S)$), and the generalized relative efficiencies (GE. RE. $\equiv V_1V_2 - (\mathrm{COV})^2/\mathrm{V}(U)\mathrm{V}(S) - (\mathrm{COV}(U, S))^2$).

The tables include the following distributions: normal distribution, $f(y) = (2\pi)^{-1/2} \exp(-y^2/2)$, for $N = k(1)20$ (194 pages); logistic distribution, $f(y) = [\exp(-y)]/[1 + \exp(-y)]^2$, for $N = k(1)25$ (702 pages); Cauchy distribution, $f(y) = 1/[\pi(1 + y^2)]$, for $N = (k + 4)(1)16(2)20$ (94 pages); and double exponential distribution, $f(y) = (1/2)(\exp -|y|)$, for $N = k(1)20$ (197 pages).

The standard deviation of the logistic distribution is $(\pi/\sqrt{3})\sigma$ and that of the double exponential distribution (also called the Laplace distribution) is 2σ.

Computation of the tables was performed on an IBM 7040 system, with 8D output subsequently rounded to 6D in the final printouts.

More detailed descriptions of these tables and their roles in statistical inference can be found in [1] and [2].

AUTHORS' SUMMARY

1. LAI K. CHAN & N. N. CHAN, "Estimates of the parameters of the double exponential distribution based on selected order statistics," *Bull. Inst. Statist. Res. Training*, v. 3, 1969, pp. 21–40.

2. LAI K. CHAN, N. N. CHAN & E. R. MEAD, "Best linear unbiased estimates of the parameters of the logistic distribution based on selected order statistics," *J. Amer. Statist. Assoc.*, v. 66, 1971, pp. 889–892.

24[9].—BROTHER ALFRED BROUSSEAU, Editor, *Fibonacci and Related Number Theoretic Tables*, Fibonacci Association, St. Mary's College, California, 1972, xii + 151 pp. (spiralbound), 29 cm.

This is a collection of 42 tables which will gladden the hearts of Fibonacci devotees, consisting as it does of 26 tables dealing with sundry matters concerning the Fibonacci numbers (here called "F_n") and their companion sequence (here called "Lucas